

**Appl. No.** : **10/765,488**  
**Filed** : **January 27, 2004**

**REMARKS**

The following remarks are responsive to the August 23, 2004 Office Action. Claims 1-21 remain as previously presented and are presented for further consideration. Please reconsider the claims in view of the following remarks.

**Response to Rejection of Claims 1, 3-7, 11, 13-17, and 21 Under 35 U.S.C. § 103(a)**

In the August 23, 2004 Office Action, the Examiner rejects Claims 1, 3-7, 11, 13-17, and 21 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2003/0075789 to Kawamura et al. ("Kawamura") in view of U.S. Patent No. 6,594,712 issued to Pettey et al. ("Pettey").

**Claim 1**

Claim 1 recites (emphasis added):

1. A memory module comprising:  
a printed circuit board;  
a plurality of identical integrated circuits mounted in a first row and a second row onto at least one surface of the printed circuit board;  
a control logic bus connected to the plurality of identical integrated circuits; and  
a first register and a second register connected to the control logic bus, the first register accessing a first range and a second range of data bits, the second register accessing a third range and a fourth range of data bits, the first range and the second range of data bits being first and second non-contiguous subsets of a data word, and the third range and the fourth range of data bits being third and fourth non-contiguous subsets of the data word.

The Examiner states that Kawamura discloses all the limitations of Claim 1 except for the limitations underlined above. The Examiner further states that Pettey discloses these limitations and that it would be obvious to modify the teachings of Kawamura to include these limitations from Pettey. For the following reasons, Applicants submit that Claim 1 is non-obvious over Kawamura in view of Pettey, and Applicants respectfully request that the Examiner withdraw the rejection of Claim 1 and pass Claim 1 to allowance.

- a. Pettey is non-analogous art to the invention recited by Claim 1.

The present application relates to memory module configurations for use in computers and is concerned with configurations which satisfy various design specifications (e.g., timing, interfaces, and memory capacity specifications). In contrast, Pettey relates to computer network architectures for remote direct memory access data transfers and is concerned with transferring large amounts of data between network nodes at high speed. While both the present application

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and Pettey generally relate to computers, Applicants submit that Pettey is not in the field of endeavor of the present application and that Pettey is not reasonably pertinent to the particular problem with which the present application is concerned. Therefore, pursuant to M.P.E.P. § 2141.01(a) (8th Ed., Rev. 2, May 2004), Pettey is non-analogous art to the invention recited by Claim 1 and is not properly relied upon in a § 103(a) rejection of Claim 1. Applicants submit that Claim 1 is patentably distinguished over Kawamura in view of Pettey.

b. Pettey does not disclose the limitation for which it is cited by the Examiner.

The Examiner states that Pettey discloses “the first register accessing a first range and a second range of data bits, the second register accessing a third range and a fourth range of data bits, the first range and the second range of data bits being first and second non-contiguous subsets of a data word, and the third range and the fourth range of data bits being third and fourth non-contiguous subsets of the data word.” However, Applicants submit that Pettey does not disclose or suggest these limitations of Claim 1.

As cited by the Examiner, Pettey discloses that (emphasis added by the Examiner) “[a] plurality of programmable address range registers facilitates multiple of the direct transfers concurrently by dividing the dedicated address range into multiple sub-ranges.” However, as recited by Claim 1, the first and second registers access various ranges of data bits that are subsets of a data word. Therefore, Pettey does not disclose a first register and a second register as recited by Claim 1 of the present application.

In addition, although Pettey discloses multiple address range registers which each correspond to different subsets of the contiguous address range, Pettey does not disclose or suggest that each address range register accesses two non-contiguous subsets of a data word. Therefore, Pettey does not disclose or suggest these limitations of Claim 1.

Because the combination of Kawamura and Pettey does not disclose or suggest all the limitations of Claim 1, Applicants submit that Claim 1 is patentably distinguished over Kawamura in view of Pettey.

c. There is no suggestion to combine Kawamura and Pettey in the prior art.

The Examiner states that it would be obvious to combine the teachings of Kawamura and Pettey “to enable random mapping subsets of word bits to the plurality of internal buffers according predetermined address range of the local bus address space.” However, the prior art does not teach or suggest the desirability of using a first register to access first and second non-

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contiguous ranges of data bits of a data word and a second register to access third and fourth non-contiguous ranges of data bits of a data word as recited by Claim 1. Applicants submit that the Examiner has impermissibly used hindsight derived from the teachings in the present application, and not the teachings of the prior art, to reject Claim 1. Therefore, pursuant to M.P.E.P. § 706.02(j), the Examiner has not provided a *prima facie* case of obviousness. Applicants submit that Claim 1 is patentably distinguished over Kawamura in view of Pettey.

**Claims 3-7**

Claim 3 depends from Claim 1, each of Claims 4 and 6 depends from Claim 3, Claim 5 depends from Claim 4, and Claim 7 depends from Claim 6. Therefore, each of Claims 3-7 includes all the limitations of Claim 1, as well as other limitations of particular utility. For the reasons discussed above in relation to Claim 1, Applicants submit that each of Claims 3-7 is patentably distinguished over Kawamura in view of Pettey. Applicants respectfully request that the Examiner withdraw the rejection of Claims 3-7 and pass these claims to allowance.

**Claims 11 and 13-17**

For the reasons discussed above in relation to Claim 1, Applicants submit that Claim 11 is also patentably distinguished over Kawamura in view of Pettey. Claim 13 depends from Claim 11, each of Claims 14 and 16 depend from Claim 13, Claim 15 depends from Claim 14, and Claim 17 depends from Claim 16. Therefore, each of Claims 13-17 includes all the limitations of Claim 11, as well as other limitations of particular utility. Applicants submit that each of Claims 13-17 is patentably distinguished over Kawamura in view of Pettey. Applicants respectfully request that the Examiner withdraw the rejection of Claims 11 and 13-17 and pass these claims to allowance.

**Claim 21**

For the reasons discussed above in relation to Claim 1, Applicants submit that Claim 21 is also patentably distinguished over Kawamura in view of Pettey. Applicants respectfully request that the Examiner withdraw the rejection of Claim 21 and pass Claim 21 to allowance.

**Comments on Allowable Subject Matter**

In the August 23, 2004 Office Action, the Examiner objects to Claims 2, 8-10, 12, and 18-20 as being dependent upon a rejected base claim, but states that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Applicants thank the Examiner for acknowledging the patentability of Claims 2, 8-10, 12, and 18-20. As discussed above, Applicants submit that the base claims and intervening claims from which Claims 2, 8-10, 12, and 18-20 depend are patentably distinguished over the prior art. Therefore, Applicants respectfully request that the Examiner withdraw the objection to Claims 2, 8-10, 12, and 18-20 and pass these claims to allowance.

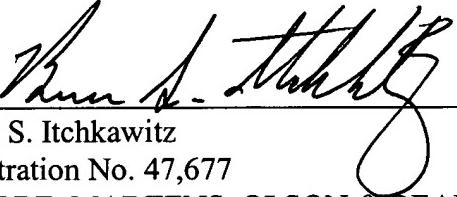
**Summary**

For the foregoing reasons, Applicants submit that Claims 1-21 are in condition for allowance, and Applicants respectfully request such action.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

Dated: 10/27/04

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